Early pandemic forecast for United States M: multi-output M: multi-output M: repeated single-output (deaths) (deaths + mobility) (deaths) 15 15 15 per million of population Prediction Prediction Prediction Truth Truth Truth Death incidence 10 10 5 5 0 0 10 12 8 10 12 8 8 10 12 6 Days since April 22 2020 Days since April 22 2020 Days since April 22 2020 B: LSTM (deaths) B: Bi-LSTM (deaths) B: GRU (deaths + mobility) 15 15 -15 per million of population Prediction Prediction Prediction Truth Truth Truth Death incidence 10 10 5 5 5 8 8 10 12 10 12 10 8 6 6 6 Days since April 22 2020 Days since April 22 2020 Days since April 22 2020 B: Persistence B: ARIMA wavelet 15 15 per million of population Prediction Prediction Truth Truth Death incidence 10 5

2

6

Days since April 22 2020

8

0

10

12

 $\dot{2}$ 

6

Days since April 22 2020

8

0

10

12